

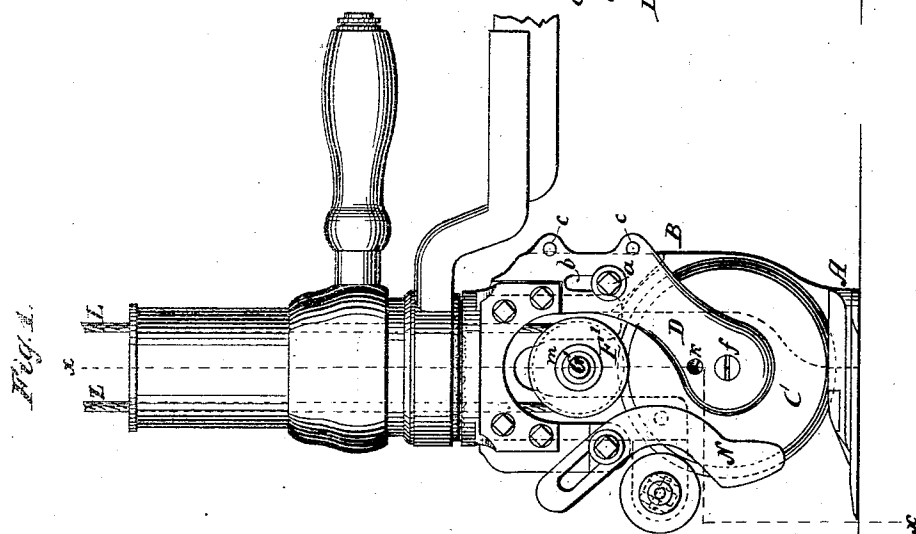
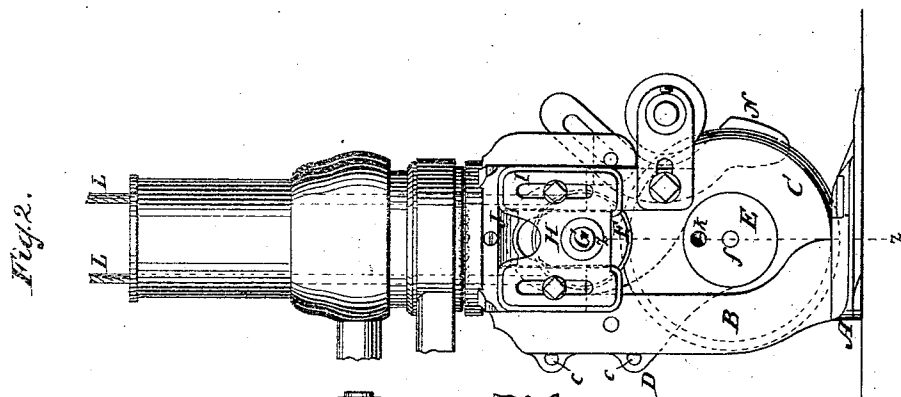
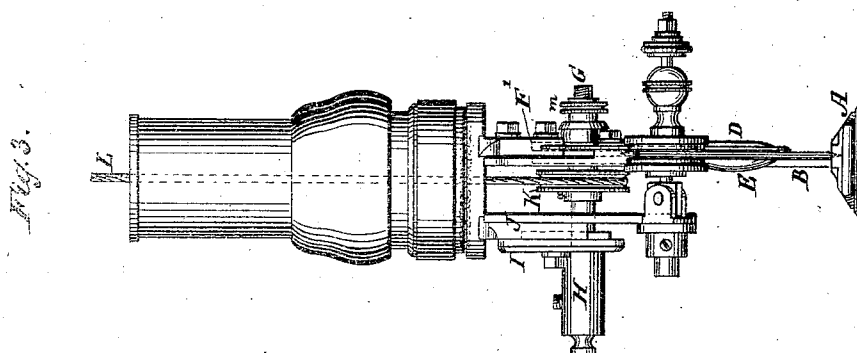
(No Model.)

2 Sheets—Sheet 1.

A. WARTH.
CLOTH CUTTING MACHINE.

No. 469,074.

Patented Feb. 16, 1892.



WITNESSES:

Edward Wolff.
William Miller

INVENTOR:

Albin Warth.

BY

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Van Santmond & Hauff
his ATTORNEYS

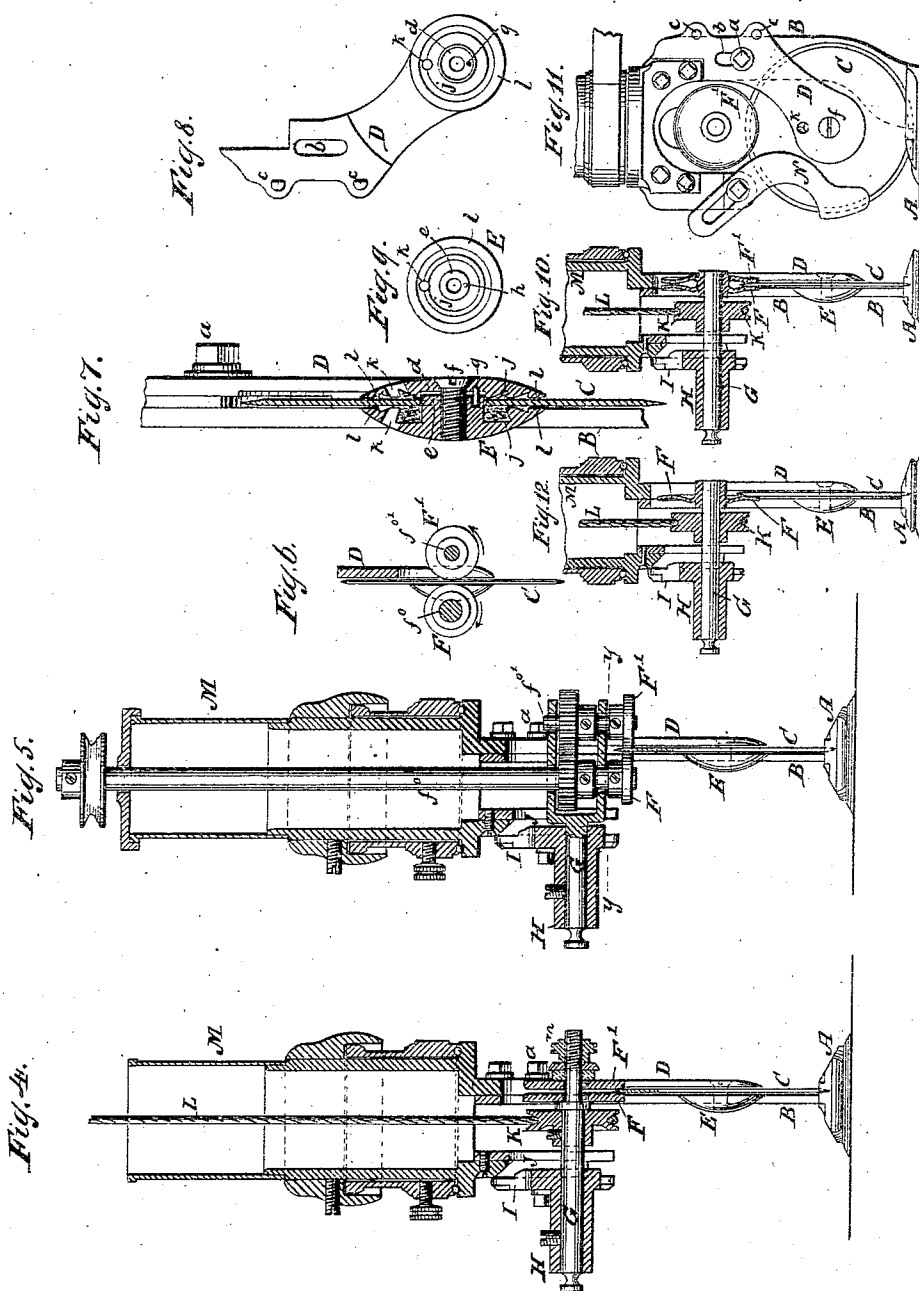
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UNITED STATES PATENT OFFICE.

ALBIN WARTH, OF STAPLETON, NEW YORK.

CLOTH-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 469,074, dated February 16, 1892.

Application filed September 17, 1891. Serial No. 408,002. (No model.)

To all whom it may concern:

Be it known that I, ALBIN WARTH, a citizen of the United States, residing at Stapleton, in the county of Richmond and State of New York, have invented new and useful Improvements in Cloth-Cutting Machines, of which the following is a specification.

This invention relates to certain improvements in cloth-cutting machines in which circular knives are used, said improvements being pointed out in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the cutter-head, showing one side. Fig. 2 is an elevation showing the opposite side of the cutter-head. Fig. 3 is a front view of the cutter-head. Fig. 4 is a vertical section in the plane $x x$, Fig. 1. Fig. 5 is a similar section of a modification. Fig. 6 is a horizontal section in the plane $y y$, Fig. 5. Fig. 7 is a vertical section of the circular knife and its bearing in the plane $z z$, Fig. 2, on a larger scale than the previous figures. Figs. 8 and 9 are detail views of the knife-bearing. Fig. 10 is a vertical section, and Fig. 11 is a side elevation, of another modification. Fig. 12 is still another modification.

In the drawings, the letter A designates the cloth-lifting foot-plate, from which rises the standard B, which carries the circular knife C. These parts form the cutter-head of a cloth-cutting machine, and this cutter-head can be moved over the table T in the manner well known to those skilled in the art.

On the standard B is secured a hanger D, and in order to be able to adjust this hanger up or down I secure the same to the standard by means of a screw a , which passes through a slot b in the hanger, said hanger being provided with lips $c c$, which engage the edge of the standard and serve to retain the hanger in the required vertical position. On the inner surface of the hanger is formed a circular recess d , which engages a cylindrical stud e , formed on the inner surface of a disk E, (Figs. 2, 4, 7, and 9,) which is secured to the hanger by a screw f and which is prevented from turning round by a steady-pin g , extending from the hanger and engaging a hole h in the disk, Figs. 7, 8, and 9. In the hanger and

disk are formed circular recesses j for the reception of an absorbent material, such as fine cotton waste, and into these recesses lead holes k for the introduction of a lubricant. The knife C is provided with a central hole fitting the cylindrical stud e , and on the hanger and the disk are formed circular rims l . When the screw f is drawn up tight, the knife C is free to turn round on the cylindrical stud e , and it is steadied in its motion by the circular rims l . The outer surfaces of the hanger D and of the circular disk E are chamfered off, so that the knife can be made to cut through a pile of material, the depth of which is greater than the radius of the knife.

For the purpose of imparting a rotating motion to the knife C, I employ a friction-disk F, which engages one of the faces of the knife above the foot-plate A. In the example shown in Figs. 1 to 4, inclusive, I have shown two circular disks F F', which are mounted on an arbor G, which has its bearings in a tube H, extending from a plate I, which is adjustably secured to a bracket J, carried by the standard B. On one end of the arbor G is cut a screw-thread to receive a nut m , and if this nut is screwed up the disks F F' are drawn up tight against the opposite faces of the knife, so that they are capable of transmitting motion to the same. On the arbor G is mounted a pulley K, round which extends the driving-belt L. In the example shown in Figs. 5 and 6 the driving-disks F F' are mounted on vertical arbors f^o $f^{o'}$, respectively, which are geared by cog-wheels, so that when a revolving motion is imparted to the arbor f^o a rotating motion is imparted to the knife C by the disks, which engage the opposite faces of the knife. On the arbor f^o is mounted a pulley which engages the driving-belt. The arbors f^o $f^{o'}$ have their bearings in a fork extending from the arbor G, which in this case is adjustably secured in the tube H, but has no revolving motion. It will be seen that in both examples the knife is geared with the driving-belt through the interior of a tubular casing M, which rises from the standard B.

In the example shown in Fig. 4 the friction-disks F F' are made detached from each other; but said disks can be connected to a

common hub, as shown in Fig. 10, and in that case I prefer to make said disks in the form of circular elastic jaws, so that when the knife C is forced in between them said jaws bear against the opposite faces of the knife with sufficient tenacity to impart motion to the knife when the shaft G is caused to revolve. The inner surfaces of the disks F F' may with advantage be covered with leather, felt, or other similar material, so that they grasp the knife with an elastic pressure.

It will be readily seen from the foregoing description that a single disk F will be sufficient to impart motion to the knife, (see Fig. 12;) but if the knife is used for cutting through a pile of material of considerable depth I prefer to use two disks engaging the opposite faces of the knife.

N is a protector, which is adjustably secured to the standard B and which extends down over one face of the knife C.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the cloth-lifting foot-plate adapted to be moved over the table which supports the material to be cut and with the standards rising from said foot-plate, of a circular knife carried by the standard, a shaft situated above the cloth-lifting foot-plate and carried by the standard, a frictional driving-disk mounted on this shaft and engaging the knife, and means for imparting to said shaft a revolving motion, substantially as described.
2. The combination, with the cloth-lifting foot-plate adapted to be moved over the table which supports the material to be cut and with the standard rising from said plate, of a circular knife carried by the standard, a shaft situated above the cloth-lifting foot-plate and carried by the standard, two frictional driving-disks mounted on this shaft and engaging the opposite faces of the knife, and means for imparting to said shaft a revolving motion, substantially as described.
3. The combination, with the cloth-lifting foot-plate adapted to be moved over the table which supports the material to be cut and with the standard rising from the same, of a hanger secured to the standard, a cylindrical stud carried by said hanger, a circular knife

mounted on said stud, a shaft situated above the cloth-lifting foot-plate and carried by the standard, a frictional driving-disk mounted on this shaft and engaging the knife, and means for imparting to said shaft a revolving motion, substantially as described.

4. The combination, with the cloth-lifting foot-plate adapted to be moved over the table which supports the material to be cut and with the standard rising from the same, of a hanger secured to the standard, a disk E, secured to the hanger, a cylindrical stud extending from this disk, a circular knife mounted on this stud between the disk and the hanger, a shaft situated above the cloth-lifting foot-plate and carried by the standard, a frictional driving-disk mounted on this shaft and engaging the knife, and means for imparting to said shaft a revolving motion, substantially as described.

5. The combination, with the cloth-lifting foot-plate and with the standard rising from said foot-plate, of a hanger secured to the standard, a disk secured to the hanger, a circular stud extending from this disk, a circular knife mounted on this stud and between the disk and the hanger, rims l and grooves j, formed on the inner faces of the disk and the hanger, a driving-disk engaging the knife at a distance from its center, and means for imparting to said driving-disk a revolving motion, substantially as described.

6. The combination, with the cloth-lifting foot-plate and with the standard rising from said foot-plate, of a circular knife carried by said standard, an arbor G, mounted in a bracket attached to the standard, two driving-disks mounted on said shaft in planes parallel to the plane of the knife and engaging the opposite faces of the said knife, the clamping-nut m, and the pulley K, mounted on the arbor G and adapted to engage the driving-belt, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALBIN WARTIL.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.

It is hereby certified that in Letters Patent No. 469,074, granted February 16, 1892, upon the application Albin Warth, of Stapleton, New York, for an improvement in "Cloth-Cutting Machines," an error appears in the printed specification requiring correction, as follows: In line 27, page 2, the word "standards" should read *standard*; and that the said Letters Patent should be read with this correction wherein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 23d day of February, A. D. 1892.

[SEAL]

CYRUS BUSSEY,

Assistant Secretary of the Interior.

Countersigned:

W. E. SIMONDS,

Commissioner of Patents.